



# Mohsen Lashgari

**Professor**

**IASBS, Department of Chemistry**

## Publications

### Journals

---

- Lashgari, Mohsen and Sabeti-Khabbazmoayed, Mahchehreh and Konsolakis, Michalis, "A cost-effective H<sub>2</sub>S pollutant electro-transformation to hydrogen clean fuel and value-added semiconducting materials: a green alternative to Claus process", Journal of Industrial and Engineering Chemistry, Vol. 6, NO. 1, 2023
- Lashgari, Mohsen and Naseri-Moghanlou, Sepideh and Khanahmadlou, Tohid and Hempelmann, Rolf, "Electrostatic boosting of ionic dye pollutant removal from aquatic environment using a single electrode photoreactor", npj Clean Water, Vol. 6, NO. 1, 2023
- Lashgari, Mohsen and Afshari, Shokofeh and Ghanimati, Majid and Seo, Jeongsuk, "SO<sub>2</sub> pollutant conversion to sulfuric acid inside a stand-alone photoelectrochemical reactor: a novel, green, and safe strategy for H<sub>2</sub>SO<sub>4</sub> photosynthesis", Journal of Industrial and Engineering Chemistry, Vol. 39, NO. 4, 2023
- Ghanimati, Majid and Lashgari, Mohsen, "Conversion of H<sub>2</sub>S Dangerous Pollutant to Hydrogen Fuel and Sulfur Element Using Bi<sub>2</sub>S<sub>3</sub> Photocatalyst", Nashrieh Shimi va Mohandesi Shimi Iran, Vol. 39, NO. 4, 2021
- Lashgari, Mohsen and Zeinalkhani, Parisa, "Electrostatic promotion of the catalyst activity for ammonia photosynthesis



upon a robust affordable nanostructured uni-electrode photodevice/reactor", *Catalysis Science & Technology*, Vol. 10, NO. 23, 2020

- Lashgari, Mohsen and Ghanimati, Majid, "Pollutant photo-conversion strategy to produce hydrogen green fuel and valuable sulfur element using H<sub>2</sub>S feed and nanostructured alloy photocatalysts: Ni-dopant effect, energy diagram and photo-electrochemical characterization", *Chemical Engineering Research and Design*, Vol. 162, NO. 26, 2020
- Lashgari, Mohsen and Soodi, Sanaz, "CO<sub>2</sub> conversion into methanol under ambient conditions using efficient nanocomposite photocatalyst/solar-energy materials in aqueous medium", *RSC Advances*, Vol. 10, NO. 26, 2020
- Lashgari, Mohsen and Ghanimati, Majid, "An excellent heterojunction nanocomposite solar-energy material for photocatalytic transformation of hydrogen sulfide pollutant to hydrogen fuel and elemental sulfur: A mechanistic insight", *Journal of Colloid and Interface Science*, Vol. 555, NO. 6, 2019
- Lashgari, M. and Soodi, Sanaz, "Photocatalytic Conversion of CO<sub>2</sub> into Oxygenate Fuels/Chemicals Using Efficient, Eco-Friendly, Titania/Hematite-Based Nanostructured Solar-Energy Materials", *J. Nanosci. Nanotechnol.*, Vol. 19, NO. 6, 2019
- Lashgari, Mohsen and Ghanimati, Majid, "A new efficient eco-friendly quaternary solid-solution nanoenergy material for photocatalytic hydrogen fuel production from H<sub>2</sub>S aqueous feed", *Chemical Engineering Journal*, Vol. 358, NO. 6, 2019
- Ghanimati, Majid and Lashgari, Mohsen, "Photocatalytic Transformation of H<sub>2</sub>S Plentiful-Perilous Pollutant to Hydrogen Clean Fuel and Sulfur Element Using MnS Nanostructured Energy-Material", *Journal of Petroleum Research*, Vol. 29, NO. 98, 2019
- Poursaeidi, Esmaeil and Mohammadi Niaei, Alireza and



Lashgari, Mohsen and Torkashvand, Kaveh, "Experimental studies of erosion and corrosion interaction in an axial compressor first stage rotating blade material", *Applied Physics A*, Vol. 124, NO. 1, 2018

- Lashgari, Mohsen and Zeinalkhani, Parisa, "Ammonia photosynthesis under ambient conditions using an efficient nanostructured FeS<sub>2</sub>/CNT solar-energy-material with water feedstock and nitrogen gas", *Nano Energy*, Vol. 48, NO. 1, 2018
- Lashgari, M. and Ghanimati, M., "Photocatalytic degradation of H<sub>2</sub>S aqueous media using sulfide nanostructured solid-solution solar-energy-materials to produce hydrogen fuel", *Journal of Hazardous Materials*, Vol. 345, NO. 1, 2018
- Lashgari, Mohsen and Elyas-Haghighi, Pegah and Takeguchi, Masaki, "A highly efficient pn junction nanocomposite solar-energy-material [nano-photovoltaic] for direct conversion of water molecules to hydrogen solar fuel", *Solar Energy Materials and Solar Cells*, Vol. 165, NO. 1, 2017
- Lashgari, Mohsen and Zeinalkhani, Parisa, "Photocatalytic N<sub>2</sub> conversion to ammonia using efficient nanostructured solar-energy-materials in aqueous media: A novel hydrogenation strategy and basic understanding of the phenomenon", *Applied Catalysis A: General*, Vol. 529, NO. 4, 2017
- Lashgari, Mohsen and Soodi, Sanaz and Zeinalkhani, Parisa, "Photocatalytic back-conversion of CO<sub>2</sub> into oxygenate fuels using an efficient ZnO/CuO/carbon nanotube solar-energy-material: Artificial photosynthesis", *Journal of CO<sub>2</sub> Utilization*, Vol. 18, NO. 4, 2017
- Lashgari, Mohsen and Diarmand-Khalilabad, Hadi, "Electrochemical insights into bacterial respiration upon polarized substrates: A proposal for tricking bacteria and compelling them to exhibit desired activities", *Journal of Electroanalytical Chemistry*, Vol. 783, NO. 4, 2016



- Lashgari, Mohsen and Ghanimati, Majid, "A highly efficient nanostructured quinary photocatalyst for hydrogen production", *International Journal of Energy Research*, Vol. 39, NO. 4, 2015
- Lashgari, Mohsen and Shafizadeh, Nahideh and Zeinalkhani, Parisa, "A nanocomposite p-type semiconductor film for possible application in solar cells: photo-electrochemical studies", *Solar Energy Materials and Solar Cells*, Vol. 137, NO. 1, 2015
- Lashgari, Mohsen and Matloubi, Davood, "Atomistic understanding of hydrogen loading phenomenon into palladium cathode: A simple nanocluster approach and electrochemical evidence", *Journal of Chemical Sciences*, Vol. 127, NO. 9, 2015
- Lashgari, Mohsen and Ghanimati, Majid, "Efficient mesoporous/nanostructured Ag-doped alloy semiconductor for solar hydrogen generation", *Journal of Photonics for Energy*, Vol. 4, NO. 1, 2014
- Lashgari, Mohsen and Hosseini, Farzaneh, "Lead-silver anode degradation during zinc electrorecovery process: chloride effect and localized damage", *Journal of Chemistry*, Vol. 2013, NO. 4, 2013
- Lashgari, Mohsen and Kianpour, Effat and Mohammadi, Esmaeil, "Aluminum pitting corrosion in halide media: A quantum model and empirical evidence", *Journal of Materials Engineering and Performance*, Vol. 22, NO. 9, 2013
- Lashgari, M. and Zeinalkhani, P., "Localized Corrosion of Iron in Chloride Media Containing Oxygen and Nitrogen Molecules: Electrochemical Studies", *Corrosion Science and Engineering Journal*, Vol. 2, NO. 1, 2012
- Lashgari, Mohsen, "Theoretical challenges in understanding the inhibition mechanism of aluminum corrosion in basic media in the presence of some p-phenol derivatives", *Electrochimica*



Acta, Vol. 56, NO. 9, 2011

- Lashgari, Mohsen and Osanloo, M., "Mechanistic studies of the synergistic effect: Copper corrosion in HCl medium in the presence of a synthetic/eco-friendly inhibitor", International Review of Biophysical Chemistry (I.RE.BI.C.), Vol. 2, NO. 26, 2011
- Lashgari, Mohsen and Arshadi, Mohammad-Reza and Miandari, Somaieh, "The enhancing power of iodide on corrosion prevention of mild steel in the presence of a synthetic-soluble Schiff-base: electrochemical and surface analyses", Electrochimica Acta, Vol. 55, NO. 20, 2010
- Lashgari, M and Arshadi, MR and Biglar, M, "Experimental and theoretical studies of media effects on copper corrosion in acidic environments containing 2-amino-5-mercapto-1, 3, 4-thiadiazole", Journal of the Iranian Chemical Society, Vol. 7, NO. 3, 2010
- Lashgari, Mohsen and Arshadi, Mohammad-Reza and Biglar, Masoume, "Comparative studies of some heterocyclic compounds as corrosion inhibitors of copper in phosphoric acid media", Chemical Engineering Communications, Vol. 197, NO. 10, 2010
- Lashgari, Mohsen and Malek, Ali M, "Fundamental studies of aluminum corrosion in acidic and basic environments: theoretical predictions and experimental observations", Electrochimica Acta, Vol. 55, NO. 18, 2010
- Sastri, VS and Perumareddi, JR and Lashgari, M and Elboujdaini, M, "Application of ligand field theory in corrosion inhibition", Corrosion, Vol. 64, NO. 4, 2008
- Lashgari, Mohsen and Arshadi, Mohammad R and Sastri, Vedula S, "Quantum electrochemical approaches to corrosion inhibition properties of some aniline derivatives in acidic media", Journal of the Electrochemical Society, Vol. 154, NO. 8, 2007



- Lashgari, M and Arshadi, MR and Parsafar, Gh A and Sastri, VS, "Cluster/polarized continuum models for density functional theory investigations of benzimidazole corrosion inhibitors at metal/solution interface", Corrosion, Vol. 62, NO. 3, 2006
- Lashgari, M and Arshadi, MR and Parsafar, Gh A, "A simple and fast method for comparison of corrosion inhibition powers between pairs of pyridine derivative molecules", Corrosion, Vol. 61, NO. 8, 2005
- Arshadi, MR and Lashgari, M and Parsafar, Gh A, "Cluster approach to corrosion inhibition problems: interaction studies", Materials Chemistry and Physics, Vol. 86, NO. 2, 2004
- Lashkari, M and Arshadi, MR, "DFT studies of pyridine corrosion inhibitors in electrical double layer: solvent, substrate, and electric field effects", Chemical physics, Vol. 299, NO. 1, 2004

## Conferences

---

- Mohsen Lashgari\*, Alireza Modiri, "Semiconducting Thin-Film Electrosynthesis via Metal Corrosion/Anodizing in Alkaline Media: Fabrication of a Copper/Copper Oxide Schottky Junction", 6th Iranian Applied Chemistry, 2022
- Mohsen Lashgari, Mahchehreh Sabeti, "Electrosynthesis of value-added sulfurous compounds using H<sub>2</sub>S feed", Third National Conference on Gas and Petrochemical Processes, pp. 1-8, 2022
- Sepideh Naseri Moghanloo, Mohsen Lashgari, "Photoelectrochemical Degradation of Dye Pollutants Using Iron Disulfide Photoelectrode", 5th Iranian Applied Seminar, 2021
- Mahchehreh Sabeti, Mohsen Lashgari, "Electrolysis of Sulfide Solution Using Cu/FeS<sub>2</sub> Bifunctional Electrode", 5th Iranian Applied Seminar, 2021



- Khanahmadlou, T. and Lashgari, M., "Wireless Photoelectrochemical Degradation of Methylene Blue Dye Using a NiCo<sub>2</sub>O<sub>4</sub>/Cu Photoelectrode", 22nd Iranian Physical Chemistry Conference, 2019
- Mohsen Lashgari, "Water Splitting, Semiconductor Solar-Energy Materials, and H-based Fuels: A Physico-Electrochemical Perspective (Invited)", 22nd Iranian Physical Chemistry Conference, 2019
- Tohid Khanahmadlou and Mohsen Lashgari, "Electrodeposition of nickel cobaltite oxide semiconductor thin film: Photocathode fabrication", 14th Annual Electrochemistry Seminar of Iran, 2018
- Lashgari, M, "Use of solar and alternative energy to reduce emissions (Invited)", US-Iran Symposium on Climate Change: Impacts and Mitigation, 2015
- Kianpour, E. and Lashgari, N. and Zakavi, S., "Effect of hardness and softness of metals on corrosion inhibitory of porphyrin compound", 15th Iranian Physical Chemistry Conference, 2012
- Kianpour, E. and Lashgari, M. and Zakavi, S., "Corrosion prevention of metals in neutral chloride media by a synthetic aqueous-soluble macro-cyclic compound", Th 9th Iranian Biennial Electrochemistry, 2011
- Mohammadi, E. and Lashgari, M. Kianpour, E. and Kaboudin, B., "Corrosion inhibition properties of some organo-phosphorus compounds in sodium chloride environments", Th 9th Iranian Biennial Electrochemistry, 2011
- Miandari, S. and Lashgari, M., "The branching and hydrogen bonding effects on corrosion inhibitory performance of some azomethine compounds: spectroscopic studies", 12th Corrosion Congress (Iran), 2011

